



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,397	08/04/2006	Yasuhiro Yamasaki	Q95210	3865
23373	7590	07/30/2010	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			RECEK, JASON D	
			ART UNIT	PAPER NUMBER
			2442	
			NOTIFICATION DATE	DELIVERY MODE
			07/30/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

sughrue@sughrue.com  
PPROCESSING@SUGHRUE.COM  
USPTO@SUGHRUE.COM

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,397	<b>Applicant(s)</b> YAMASAKI, YASUHIRO
	<b>Examiner</b> JASON RECEK	<b>Art Unit</b> 2442

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 27 April 2010.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-9, 11-19 and 21-29 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-9, 11-19 and 21-29 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 27 April 2010 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statements (PTO/SB/08)  
 Paper No(s)/Mail Date 21 May 2010

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date: \_\_\_\_\_  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

This is in response to the amendment filed on April 27th 2010.

***Status of Claims***

Claims 10, 20 and 20 are cancelled. Claims 1-9, 11-19 and 21-29 are currently amended.

***Response to Arguments***

1. Applicant's arguments, see pg. 21, with respect to the drawings have been fully considered and are persuasive. The objection of the drawings has been withdrawn.
2. Applicant's arguments, see pg. 21, with respect to the 101 rejections have been fully considered and are persuasive. The 101 rejection of claims 11-30 has been withdrawn.
3. Applicant's arguments, see pg. 22, with respect to the 112 rejections have been fully considered and are persuasive. The 112 rejection of claims 1-30 has been withdrawn. However a new 112 rejection is made for claims 5, 15 and 25.

4. Applicant's arguments, see pg. 22-24, with respect to the rejection(s) of claim(s) 1 under 102 have been fully considered and are persuasive. Specifically, the argument that Aweya does not teach the new limitation "calculating a receivable amount so that the receivable amount comprises smaller than empty data amount" is persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Sisto et al. US 2008/0212965 A1.

5. Applicant's arguments, see pg. 24-25, with respect to the rejection(s) of claim(s) 2 under 102 have been fully considered and are persuasive. Specifically, the argument that Aweya does not teach "measuring time while a data storing unit is empty" is persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Sillasto et al. US 2005/0063304 A1.

6. Applicant's arguments, see pg. 25, with respect to claims 3, 4-9, 11-19 and 21-29 repeat the arguments made above, therefore they are persuasive for similar reasons.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 5, 15 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention. Regarding claim 5, the term "wherein" suggests or makes optional the limitations concerning the receivable amount since it does not limit the claim to a particular scope. Claims 15 and 25 are rejected for similar reasons. See MPEP 2106.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1, 4-6, 11, 14-16, 21 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aweya et al. US 6,690,645 B1 in view of Sisto et al. US 2008/0212965 A1.

Regarding claim 1, Aweya teaches "monitoring data amount within a data storing unit" monitoring queue occupancy (col. 2 ln. 35-42);

"calculating a receivable amount" generating an inter-drop/mark value which represents a number of packets (receivable amount) to be accepted into the queue (col. 3 ln. 5-10, col. 10 ln. 18-23); and

"informing the data transmission terminal of the receivable amount" marked packets are sent back thus informing sender of receivable amount (col. 10 ln. 30-44).

Aweya does not explicitly disclose "receivable amount comprises smaller than empty data amount being calculated from the data amount" however this is disclosed by Sisto as calculating available buffer space by first reducing unfilled space (empty amount) by the amount of outstanding data, thereby resulting in an amount smaller than the empty amount (paragraph 23). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Aweya with the teaching of Sisto for the purpose of controlling a queue. Aweya itself teaches that it is advantageous to stabilize queue occupancy levels by controlling the amount of data transmitted to the queue (col. 2 ln. 35-48).

Regarding claim 4, Aweya discloses "setting a plurality of thresholds for the empty data amount" as setting desired queue occupancy (col. 5 ln. 15-30), and "calculating the receivable amount with a plurality of functions each of which are set with respect to respective ranges being determined by the thresholds" marking/dropping packets according to functions (col. 5 ln. 43-67, col. 10 ln. 53 – col. 11 ln. 13).

Regarding claim 5, Aweya discloses "setting a plurality of thresholds for the empty data amount" as setting desired queue occupancy (col. 5 ln. 15-30), and "determining the receivable amount with respect to respective ranges being determined by the thresholds" marking/dropping packets according to threshold values (col. 5 ln. 43-67, col. 10 ln. 53 – col. 11 ln. 13), and "the receivable amount is proportional to a value being calculated by dividing the empty data amount by a positive number"

occupancy (receivable amount) is determined by dividing capacity by a positive number (col. 5 ln. 20-25).

Regarding claim 6, Aweya discloses "setting a plurality of thresholds for the empty data amount" generate threshold (col. 8 ln. 52-54), "calculating the receivable amount with a plurality of functions each of which are set with respect to respective ranges being determined by the thresholds" marking/dropping packets according to functions (col. 5 ln. 43-67, col. 10 ln. 53 – col. 11 ln. 13), and "the functions decrease the receivable amount according to a decrease in the empty data amount" function changes according to queue occupancy (col. 8 ln. 30-40).

Regarding claims 11 and 14-16, they are apparatuses that correspond to the methods of claims 1 and 4-6 respectively, therefore they are rejected for similar reasons.

Regarding claims 21 and 24-26, they are mediums that corresponds to the methods of claims 1 and 4-6 respectively, therefore they are rejected for similar reasons.

11. Claims 2, 7-9, 12, 17-19, 22 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aweya in view of Sillasto et al. US 2005/0063304 A1.

Regarding claim 2, Aweya discloses "judging whether a transmission amount is reduced or not, based on the time and a network situation relating to throughput for a data transmission" as monitoring queue occupancy over a time interval and determining congestion (col. 2 ln. 49-53, col. 6 ln. 48-62), and

"determining a transmissive amount based on the judgment" determining amount of data allowable and possibly reducing transmission rate (col. 5 ln. 4-67).

Aweya does not explicitly disclose "measuring time while a data storing unit is empty" however this is taught by Sillasto as an inactivity timer that measures when a buffer is empty (paragraph 47). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Aweya with the timer taught by Sillasto for the purpose of controlling a buffer. Aweya itself suggests using time periods to control buffer flows (col. 6 ln. 48-62).

Regarding claim 7, Aweya discloses "judging whether the transmissive amount is reduced or not based on the time and network situation" control transmission rate according to queue occupancy which is dependent on time and congestion (col. 12 ln. 35-41, Fig. 9),

Aweya does not explicitly disclose "network situation includes information for specifying at least one of a user, an application, or priority of data" or "information for specifying the application comprises port number of TCP" however this is taught by Sillasto as identifying an application by port number (paragraph 31). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a port

number to identify an application, this is merely the combination of known elements according to their established function in order to yield a predictable result.

Regarding claim 8, Aweya discloses "judging whether the transmissive amount is initialized or not based on the network situation when the data storing unit continues to be empty for a predetermined period" as initializing settings to zero (col. 8 ln. 1-15).

Regarding claim 9, it is a combination of claims 7 and 8, therefore it is rejected for similar reasons.

Regarding claims 12 and 17-19, they are apparatuses that correspond to claims 2 and 7-9 respectively, therefore they are rejected for similar reasons.

Regarding claims 22 and 27-29, they are mediums that corresponds to claims 2 and 7-9 respectively, therefore they are rejected for similar reasons.

12. Claims 3-9, 13-19 and 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aweya and Sisto in view of Sillasto.

Regarding claim 3, it corresponds to claims 1 and 2 as indicated by applicant (pg. 25 of response dated 4/27/10); thus the corresponding parts are rejected for similar reasons. It would have been obvious to one of ordinary skill in the art to modify the

combination of Aweya and Sisto with the timer taught by Sillasto for the purpose of controlling a buffer. Aweya itself suggests using time periods to control buffer flows (col. 6 ln. 48-62).

Regarding claims 4-9, they are rejected for the same reasons given previously.

Regarding claims 13-19, they are directed towards an apparatus which corresponds to the method of claims 3-9. Therefore, they are rejected for similar reasons.

Regarding claim 23-29, they are directed towards a medium which corresponds to the method of claims 3-9. Therefore, they are rejected for similar reasons.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lin US 2010/0091652 A1 discloses using timers to measure when a queue is empty (paragraph 10).

Turner et al. US 7,012,889 B1 discloses measuring time from queue empty to data arrival in order to control flow (abstract).

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON RECEK whose telephone number is (571)270-1975. The examiner can normally be reached on Mon - Fri 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Asad Nawaz can be reached at 571-272-3988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Recek/  
Examiner, Art Unit 2442  
(571) 270-1975  
/Asad M Nawaz/  
Supervisory Patent Examiner, Art Unit 2442